



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/787,248	08/24/2001	Dirk Kolowrot	H3381 PCT/US	7954
423	7590	08/09/2004	EXAMINER	
HENKEL CORPORATION THE TRIAD, SUITE 200 2200 RENAISSANCE BLVD. GULPH MILLS, PA 19406			MUSSEY, BARBARA J	
			ART UNIT	PAPER NUMBER
			1733	

DATE MAILED: 08/09/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/787,248

Applicant(s)

KOLOWROT ET AL.

Examiner

Barbara J. Musser

Art Unit

1733

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on 25 May 2004.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 15-35 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 15-20 and 22-35 is/are rejected.
- 7) ☒ Claim(s) 21 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____

DETAILED ACTION

Claim Rejections - 35 USC § 103

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2. Claims 15-20 and 22-35 are rejected under 35 U.S.C. 103(a) as being unpatentable over Suzuki et al. as evidenced by Iwami et al. and Properties(Properties of Paraffinic SHELLFLEX Oils), and in view of either one of Sustic(U.S. Patent 5,723,546) or Riswick et al.(U.S. Patent 5,804,519) and Vestoplast.

Suzuki et al. discloses a sprayable hot melt adhesive with greater than 20wt% amorphous poly-alpha-olefin(APAO), less than 20 wt% oil, and 30-70wt% hydrocarbon resin tackifier used in making diapers.(Col. 7, ll. 27-Col. 8, ll. 10) The adhesive has a melt viscosity of 500-10,000 cp at 180°C.(Col. 1, ll. 65-67) The reference does not disclose the softening temperature of the hydrocarbon but does disclose it can be CLEARON (Col. 7, ll. 59; Col. 14, ll. 35) CLEARON P105 has a softening temperature of 105°C as evidenced by Iwami et al. which disclose CLEARON P105 has a softening temperature of 105°C.[0035]

The reference does not disclose the viscosity of the oil, but does disclose it can be a paraffinic SHELLFLEX oil.(Col. 8, ll. 3-4) Properties discloses that some paraffinic SHELLFLEX oils have viscosities of 19.4-70.3 mPas at 40C.(Table 1)

The reference does not disclose using a mixture of APAOs though it does disclose any conventional APAO can be used.(Col. 7, ll. 39-40) Sustic discloses a mixture of APAOs which can be used as an adhesive in a mix with tackifiers and waxes(Col. 3, ll. 34-35; Col. 4, ll. 6-9) and which has high tensile strength.(Col. 3, ll. 21-27; Abstract) Some of this mixture of APAOs can have softening temperatures of 70-140°C and a melt viscosity of 8,000-145,000 cp at 150°C with needle penetrations of 1.5-3.(Table 2) It would have been obvious to one of ordinary skill in the art at the time the invention was made to use the mixtures of APAOs of Sustic in the adhesive composition of Suzuki et al. since Suzuki et al. discloses any APAO can be used and since Sustic discloses that the mixtures of the reference have greater tensile strength than conventional APAOs(Col. 3, ll. 21-26) which would be useful in diapers so that the layers of the diaper do not separate in use. While the range of softening temperatures and melt viscosities of the APAO mixtures of Sustic encompass the claimed range, Suzuki et al. discloses the adhesive composition has a viscosity of 500-10,000 cp at 180C.(Abstract) Therefore one in the art would appreciate that the APAO mixtures of Sustic having the lower softening temperatures and melt viscosities would be used as otherwise the viscosity and softening temperature of the adhesive composition would be too high since the APAO mixture is more than 20% of the adhesive and too high a melt viscosity for the APAO mixture would result in a higher melt viscosity for the adhesive composition than is desired in Suzuki et al.

Alternatively, Riswick et al. discloses an adhesive composition for bonding diapers having tackifiers and oils(Col. 3, ll. 39-40; Col. 4, ll. 12-13) and wherein one or

Art Unit: 1733

more APAOs is used.(Col. 3, ll. 11-26) These APAOs include ones used by applicant.(Col. 3, ll. 11-26) It would have been obvious to one of ordinary skill in the art at the time the invention was made to use a mixture of APAOs in the adhesive composition since Riswick et al. discloses the use of one or more APAOs in adhesive compositions used in diapers is well-known in the adhesive art. Since these materials are the same as applicant's, they would have the same properties and shown for example by Vestoplast.

Regarding claims 16, 20, 28, 31, and 35, one component of the APAO can have a number average molecular weight of above 15,000, and the ratio of weight average molecular weight to number average molecular weight is 6 or less.(Col. 5, ll. 55-65)

Regarding claim 17, as the viscosity of the adhesive can be 500 cp at 180°C, one in the art would appreciate that it would be less than 1,900 cp at 150°C since the viscosity does not tend to rise appreciably with temperature until the components near their softening temperatures.

Regarding claim 18, one component of the APAO contains 30-90% butene and 90-30% propylene.(Col. 5, ll. 14-17)

Regarding claim 19, the APAO mixture can have a viscosity of 4,000-8,000 cp at 150°C and therefore would have a viscosity less than 15,000 cp at 190C.(Tables II and III)

Regarding claim 22, using medicinal white oils as the plasticizer is well-known and conventional in the adhesive arts. It would have been obvious to one of ordinary skill in the art at the time the invention was made to use any well-known and

Art Unit: 1733

conventional oil such as medicinal white oil as the plasticizer since such oils are well-known and conventional in the adhesive arts. As applicant has not argued that white medicinal oils are not well-known and conventional in the adhesive arts, it is considered that applicant agrees such are well-known and conventional in the adhesive arts.

Regarding claim 23, the hydrocarbon can be a C9 based petroleum.(Col. 7, ll. 55)

Regarding claim 24, pigments and stabilizers are well-known and conventional additives to adhesives. It would have been obvious to one of ordinary skill in the art at the time the invention was made to add any well-known and conventional additives such as stabilizers or pigments to the adhesive since such additives are well-known and conventional in the adhesive arts. As applicant has not argued that the use of stabilizers and pigments are not well-known and conventional in the adhesive arts, it is considered that applicant agrees such are well-known and conventional in the adhesive arts.

Regarding claim 26, since the materials used are the same as applicant in the same proportions as applicant, the viscosity of the adhesive at 100°C would be in the same range as applicant's.

Regarding claims 27, 29, 30, and 33, the adhesive is used to bond together a nonwoven and a polyethylene film.(Col. 6, ll. 35-61) The composite can be used in a diaper.(Col. 1, ll. 8) The adhesive is applied at a weight of 0.5-7 g/m².(Col. 3, ll. 14-19) The coating temperature can be 170°C.(Col. 12, ll., 66-67)

Regarding claim 32, the adhesive can be applied at a rate of 200 m/min.(Table 3) While the only coating temperature listed is 170, one in the art would appreciate that the adhesive could be applied at any temperature where the materials are liquid and capable of being sprayed. Absent unexpected results, the coating temperature is considered obvious.

Regarding claim 34, while the reference does not disclose the conditions under which the adhesive is mixed, one in the art would appreciate that the mixing would be done under an inert atmosphere since that would prevent reaction of the materials with oxygen as is well-known and conventional in the chemical arts. As applicant has not argued that mixing under an inert atmosphere to prevent oxidation is not well-known and conventional in the adhesive arts, it is considered that applicant agrees such is well-known and conventional in the adhesive arts.

Allowable Subject Matter

3. Claim 21 is objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.
4. The following is a statement of reasons for the indication of allowable subject matter: the prior art of record does not teach or fairly suggest a mixture of an APAO with a melt viscosity of 40,000-60,000 mPas at 190C and an APAO with a melt viscosity of 3,000-10,000 mPas at 190C. While Riswick et al. does disclose mixtures of APAOs, some of which meet the claimed requirements, there is no suggestion in the reference as to which APAOs to pick.

Response to Arguments

5. Applicant's arguments filed 5/25/04 have been fully considered but they are not persuasive.

Regarding applicant's argument that Suzuki et al. does not suggest picking a specific oil or hydrocarbon that would meet applicant's requirements and that such would require significant picking and choosing, Suzuki et al. discloses only two specific materials as a hydrocarbon, the first of which is a trademark having the properties that would meet applicant's claims. It also discloses several oils, and the first example given of an oil meets applicant's requirements. The reference specifically teaches an oil and a hydrocarbon that meet applicant's claims. These are not materials picked from part way down a large group of ingredients, but rather are the first examples of the materials listed in the reference, clearly indicating they are the desired materials used.

Regarding applicant's argument that there is no motivation to pick a mixture of APAOs with applicant's desired characteristics, Sustic discloses a number of mixtures of APAOs including ones which meet applicant's requirements. It would have been obvious to one of ordinary skill in the art at the time the invention was made to use any of the mixtures of APAOs of Sustic in Suzuki et al. since Suzuki et al. discloses any APAO can be used and since Sustic indicates that mixtures of APAOs like those of the reference have greater tensile strength than conventional APAOs. While the range of softening temperatures and melt viscosities of the APAO mixtures of Sustic encompass the claimed range, Suzuki et al. discloses the adhesive composition has a viscosity of

500-10,000 cp at 180C.(Abstract) Therefore one in the art would appreciate that the APAO mixtures of Sustic having the lower softening temperatures and melt viscosities would be used as otherwise the viscosity and softening temperature of the adhesive composition would be too high since the APAO mixture is more than 20% of the adhesive and too high a melt viscosity for the APAO mixture would result in a higher melt viscosity for the adhesive composition than is desired in Suzuki et al. Additionally, Riswick discloses that mixtures of the APAOs used by applicant are well-known among the adhesive materials used on diapers.

Regarding applicant's argument that there is no guidance in Sustic as to which APAO mixtures to use, Suzuki et al. discloses a desired melt viscosity range, providing guidance in choosing which of the APAO mixture of Sustic to use.

Regarding applicant's argument that one would have to pick and choose in Sustic to achieve a mixture of APAOs within the desired range, one in the art would choose the APAO mixtures of Sustic having the lower softening temperatures and melt viscosities as otherwise the viscosity and softening temperature of the adhesive composition would be too high since the APAO mixture is more than 20% of the adhesive and too high a melt viscosity for the APAO mixture would result in a higher melt viscosity for the adhesive composition than is desired in Suzuki et al.

Regarding applicant's argument that Sustic provides no guidance as to which mixtures to choose, Suzuki et al. provides such guidance by requiring specific softening temperatures and melt viscosities for the adhesive composition, thus restricting the softening temperatures and melt viscosities which can be used for the APAOs.

Regarding applicant's argument the Riswick does not teach a blend of APAOs with the claimed properties, it teaches a mixture of APAOs, several of which are those used by applicant, and therefore would meet applicant's requirements.

Conclusion

6. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to **Barbara J. Musser** whose telephone number is **(571) 272-1222**. The examiner can normally be reached on Monday-Thursday; alternate Fridays.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Blaine Copenheaver can be reached on (571)-272-1156. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Art Unit: 1733

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

BJM



BLAINE COPENHEAVER
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 1700